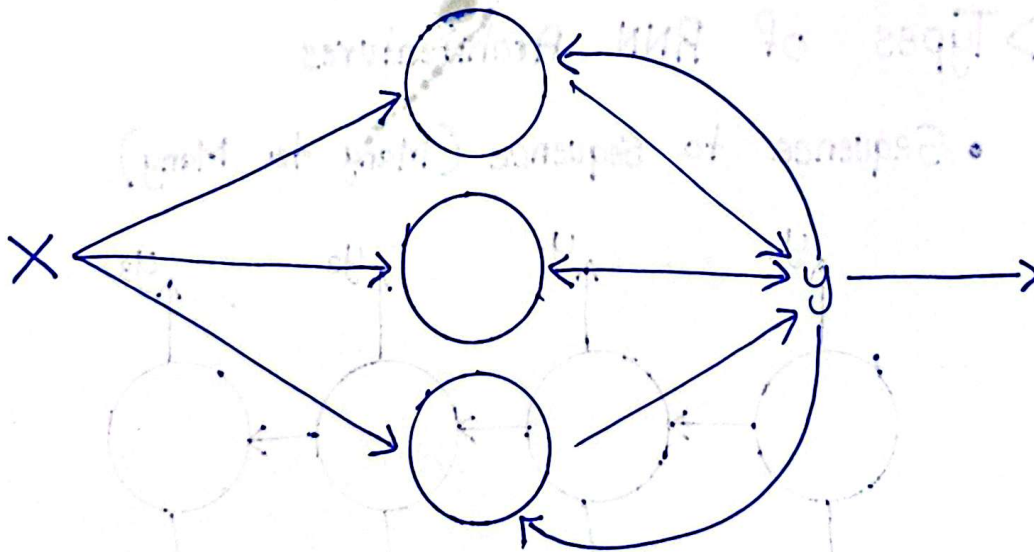
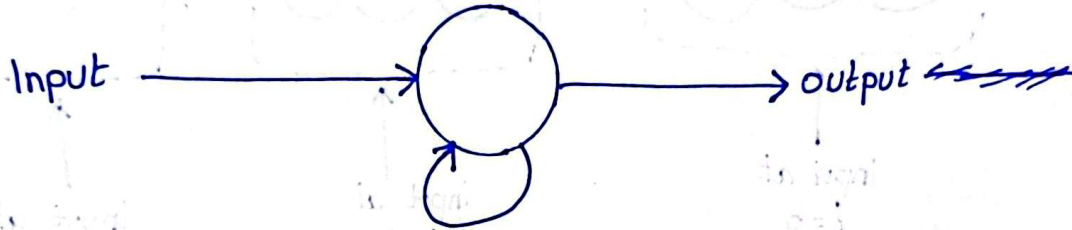


# Recurrent Neural Network

## → Understanding RNN Architecture

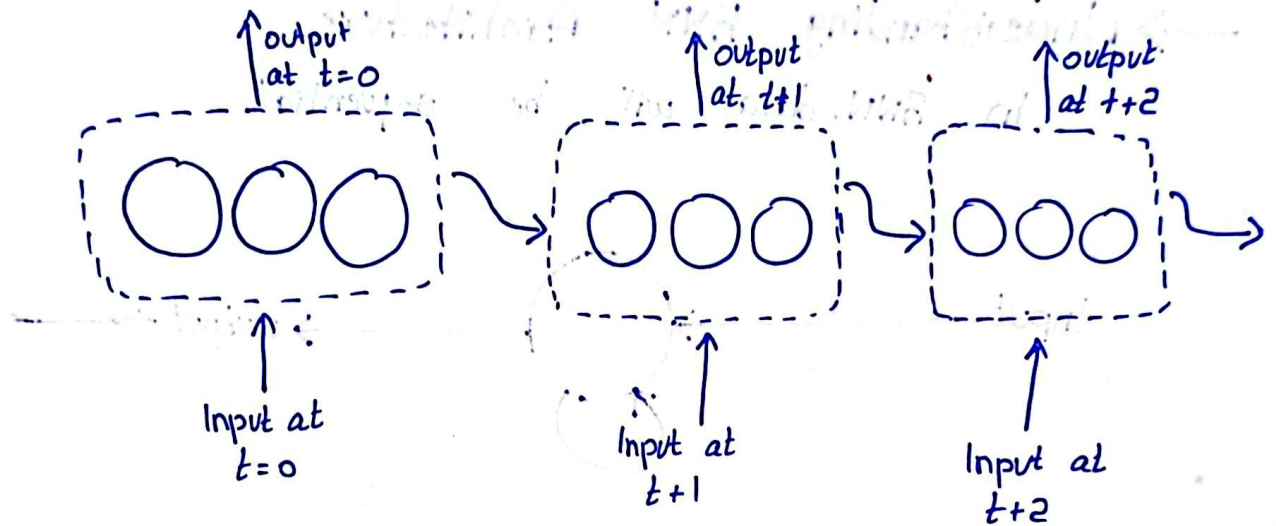
In RNN, data will be sequential.



The food is good  
 $x_{11}$   $x_{12}$   $x_{13}$   $x_{14}$

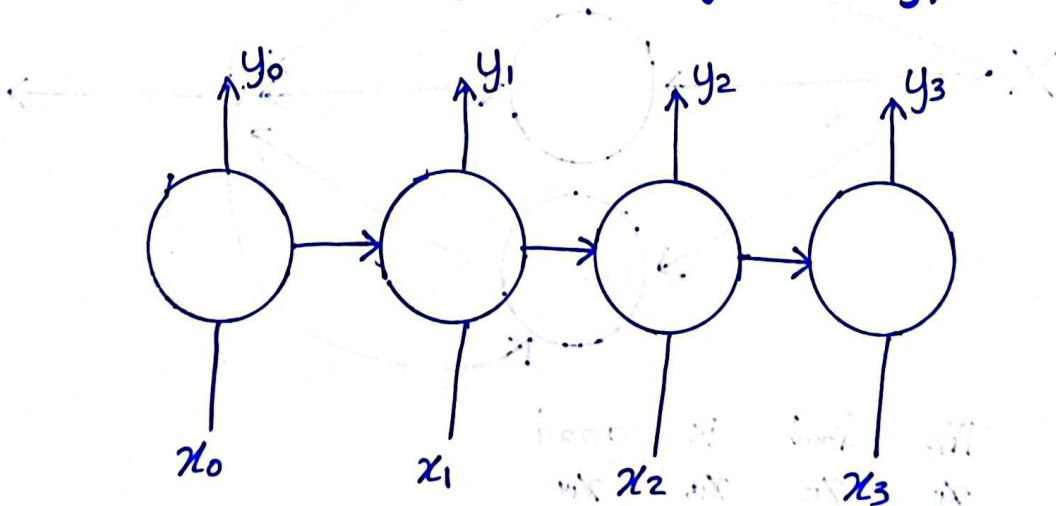
time stamps  
 $t_1 \rightarrow x_{11}$   
 $t_2 \rightarrow x_{12}$   
 $t_3 \rightarrow x_{13}$   
 $t_4 \rightarrow x_{14}$

## > Unrolled Layer



## > Types of RNN Architectures

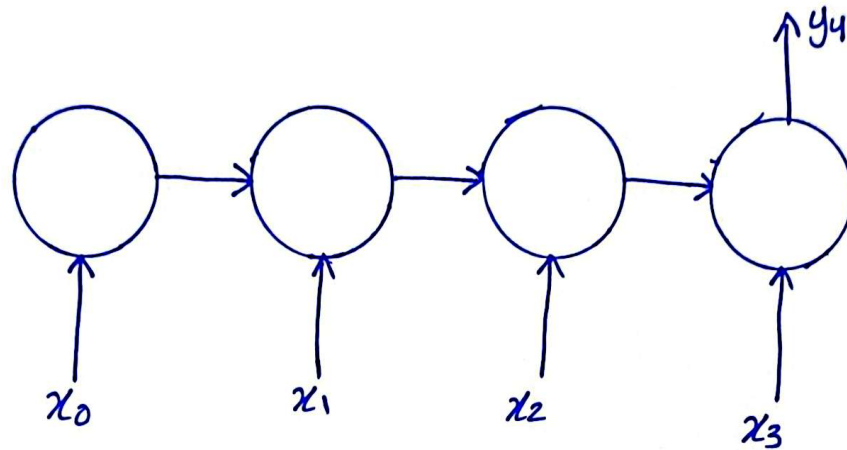
- Sequence to Sequence (Many to Many)



### Example:

Given 4 previous words, predicts the next 4

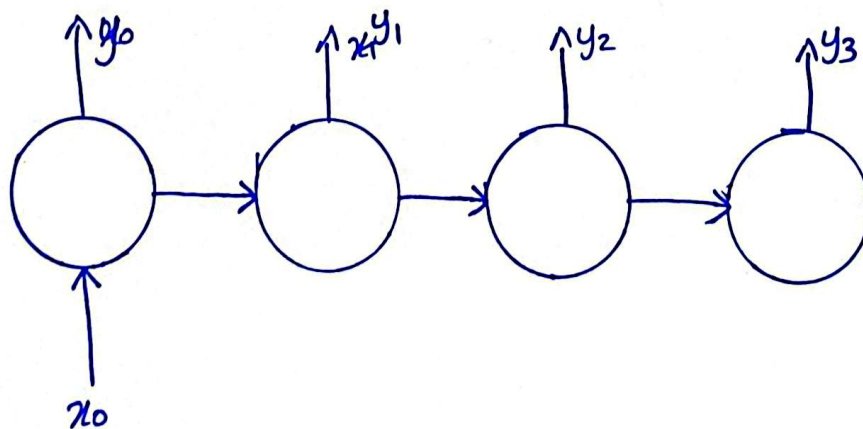
- Sequence to Vector (Many to One)



Example

Given 4 previous words, predict the next one

- Seq Vector to Sequence (One to Many)



Example

Given 1 word, predict next 4.